

TARMAC



USER MANUAL



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SPECIALIZED BICYCLE COMPONENTS

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0000145155_UM_R2, 10/22

We may occasionally issue updates and addendums to this document. Please periodically check www.specialized.com or contact Rider Care to make sure you have the latest information.
Info: specialized.com / 877-808-8154

1. INTRODUCTION

This user manual is specific to your Specialized Tarmac SL7 bicycle. It contains important safety, performance and technical information, which you should read before your first ride and keep for reference. You should also read the entire Specialized Bicycle Owner's Manual ("Owner's Manual"), because it has additional important general information and instructions which you should follow. If you do not have a copy of the Owner's Manual, you can download it at no cost at www.specialized.com, or obtain it from your nearest Authorized Specialized Retailer or Specialized Rider Care.

Additional safety, performance and service information for specific components such as seatpost or pedals on your bicycle, or for accessories such as helmets or lights, may also be available. Make sure that your Authorized Specialized Retailer has given you all the manufacturers' literature that was included with your bicycle or accessories. If there is a difference between the instructions in this manual and the information provided by the component manufacturer, please refer to your Authorized Specialized Retailer.

When reading this user manual, you will note various important symbols and warnings, which are explained below:



WARNING! The combination of this symbol and word indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death. Many of the Warnings say "you may lose control and fall." Because any fall can result in serious injury or even death, we do not always repeat the warning of possible injury or death.



CAUTION: The combination of the safety alert symbol and the word CAUTION indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury, or is an alert against unsafe practices.

The word CAUTION used without the safety alert symbol indicates a situation which, if not avoided, could result in serious damage to the bicycle or the voiding of your warranty.



INFO: This symbol alerts the reader to information which is particularly important.



GREASE: This symbol means that high quality grease should be applied as illustrated.



CARBON FRICTION PASTE: This symbol means that carbon friction paste should be applied as illustrated to increase friction.



TORQUE: This symbol highlights the correct torque value for a specific bolt. In order to achieve the specified torque value, a quality torque wrench must be used.



TECH TIP: Tech Tips are useful tips and tricks regarding installation and use.

1.1. INTENDED USE

The Specialized Tarmac SL7 bicycles are intended and tested for High Performance Road Riding use only (condition 1). For more information on intended use and structural weight limits for the frame and components, please refer to the Owner's Manual.

1.2. WARRANTY

Please refer to the written warranty provisions provided with your bicycle, or visit www.specialized.com. A copy is also available at your Authorized Specialized Retailer.

2. GENERAL NOTES ABOUT ASSEMBLY

This manual is not intended as a comprehensive assembly, use, service, repair or maintenance guide. Please see your Authorized Specialized Retailer for all service, repairs or maintenance. Your Authorized Specialized Retailer may also be able to refer you to classes, clinics or books on bicycle use, service, repair, and maintenance.

- Tire sizes vary significantly from brand to brand. CEN standards require a minimum of 6mm of clearance between the frame/fork and the tires. When choosing a wheel and tire combo, factor in enough clearance for the conditions, setup and wheel flex.
- The Tarmac SL7 frames use a 68mm standard BSA threaded design. Grease the threads. Install and torque according to the bottom bracket manufacturer's instructions.
- Before installing the bottom bracket and crank, make sure all housings and wires are routed through the frame.



WARNING! Never modify your frame or components in any way. Do not sand, drill, file, or remove parts. Do not install incompatible forks or components. An improperly modified frame, fork, or component, can cause you to lose control and fall.



WARNING! Carbon Aerofly 2 handlebars are not compatible with clip-on aero bars that clamp onto the handlebar.



In order to successfully build the Tarmac SL7 bicycle, it is very important to follow the order of operations as outlined in this manual. Modifying the order of assembly will result in a longer build process.



Assembly of the front end of the bicycle is easiest with the rider's fit already determined (the steerer tube doesn't need to be cut at this time, it can stick out the top of the stem), prior to routing all the housings and wires through the frame and fork.

To determine fit, it is recommended to use a fit tool. If this is not possible, perform a basic assembly of the wheels, drivetrain and front end components, without the brakes and housings. Once the fit is complete, all the components will have to be removed in order to route the housings and wires.



WARNING! Due to the high degree of complexity of the Tarmac SL7, proper assembly requires a high degree of mechanical expertise, skill, training and specialty tools. Therefore, it is essential that the assembly, maintenance and troubleshooting be performed by an Authorized Specialized Retailer.



WARNING! Many components on the Tarmac SL7, including, but not limited to, the handlebars and the stem, are proprietary to the Tarmac SL7. Only use originally supplied components and hardware at all times. Use of other components or hardware will compromise the integrity and strength of the assembly. Tarmac SL7 specific components should only be used on the Tarmac SL7 and not on other bicycles, even if they fit. Failure to follow this warning could result in serious injury or death.



CAUTION: Do not face the bottom bracket shell! This can prevent proper installation of the crank. Your Specialized frame does not require any bottom bracket shell pre-installation preparation, as all surfaces have been precisely machined to specific tolerances at the factory for proper interface with a compatible crankset. Please refer to the manufacturer instructions for crank and bottom bracket installation.



CAUTION: Always use a bottom bracket equipped with a sleeve between the two cups. Running a bottom bracket without the sleeve can result in housings and/or wires contacting the bottom bracket spindle, which can result in wear.

2.1. TOOLS / TORQUE SPECS



WARNING! Correct tightening force on fasteners (nuts, bolts, screws) on your bicycle is important for your safety. If too little force is applied, the fastener may not hold securely. If too much force is applied, the fastener can strip threads, stretch, deform or break. Either way, incorrect tightening force can result in component failure, which can cause you to lose control and fall.

Where indicated, ensure that each bolt is torqued to specification. After your first ride, and consistently thereafter, recheck the tightness of each bolt to ensure secure attachment of the components. The following is a summary of torque specifications in this manual:



CAUTION: Ensure that all contact surfaces are clean and bolt threads are greased or have a threadlocking compound (refer to the instructions for each bolt) prior to installation.

The following tools are required for installation of this product:

- 2, 2.5, 3, 4, 5, 6mm socket-style Allen key bits
- Torque wrench
- High-quality grease
- Cable housing cutters
- Carbon assembly compound (fiber paste)
- Blue threadlocker

3. GENERAL NOTES ABOUT MAINTENANCE

The Tarmac SL7 is a high performance bicycle. All regular maintenance, troubleshooting, repair and parts replacement must be performed by an Authorized Specialized Retailer. For general information regarding maintenance of your bicycle, please refer to the Owner's Manual. In addition, routinely perform a mechanical safety check before each ride, as described in the Owner's Manual.

- Great care should be taken to not damage carbon fiber or composite material. Any damage may result in a loss of structural integrity, which may result in a catastrophic failure. This damage may or may not be visible in inspection. Before each ride, and after any crash, you should carefully inspect your bicycle for any fraying, gouging, scratches through the paint, chipping, bending, or any other signs of damage. Do not ride if your bicycle shows any of these signs. After any crash, and before you ride any further, take your bicycle to an Authorized Specialized Retailer for a complete inspection.
- While riding, listen for any creaks, as a creak can be a sign of a problem with one or more components. Periodically examine all surfaces in bright sunlight to check for any small hairline cracks or fatigue at stress points, such as welds, seams, holes, and points of contact with other parts. If you hear any creaks, see signs of excessive wear, discover any cracks, no matter how small, or any damage to the bicycle, immediately stop riding the bicycle and have it inspected by your Authorized Specialized Retailer.
- Lifespan and the type and frequency of maintenance depends on many factors, such as frequency and type of use, rider weight, riding conditions and/or impacts. Exposure to harsh elements, especially salty air (such as riding near the ocean or in the winter), can result in galvanic corrosion of components such as the crank spindle and bolts, which can accelerate wear and shorten the lifespan. Dirt can also accelerate wear of surfaces and bearings. The surfaces of the bicycle should be cleaned before each ride. The bicycle should also be maintained regularly by an Authorized Specialized Retailer, which means it should be cleaned, inspected for signs of corrosion and/or cracks and lubricated. If you notice any signs of corrosion or cracking on the frame or any component, the affected item must be replaced.
- Regularly clean and lubricate the drivetrain according to the drivetrain manufacturer's instructions.

- Do **not** use a high pressure water spray directly on the bearings. Even water from a garden hose can penetrate bearing seals and crank interfaces, which can result in increased bearing and crank wear, which can affect the normal function of the bearings. Use a clean, damp cloth and bicycle cleaning agents for cleaning.
- Do **not** expose the bicycle to prolonged direct sunlight or excessive heat, such as inside a car parked in the sun or near a heat source such as a radiator.

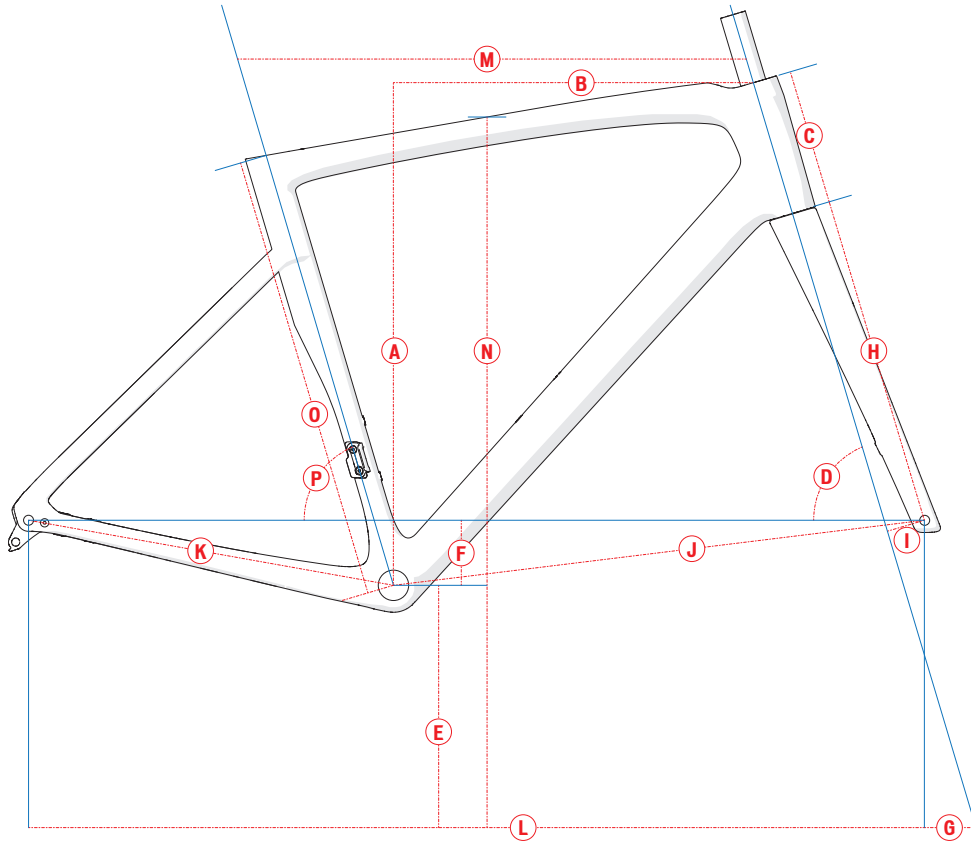


WARNING! Failure to follow the instructions in this section may result in damage to the components on your bicycle and will void your warranty, but, most importantly, may result in serious personal injury or death. If your bicycle exhibits any signs of damage, do not use it and immediately bring it to your Authorized Specialized Retailer for inspection.

4. SPECIFICATIONS

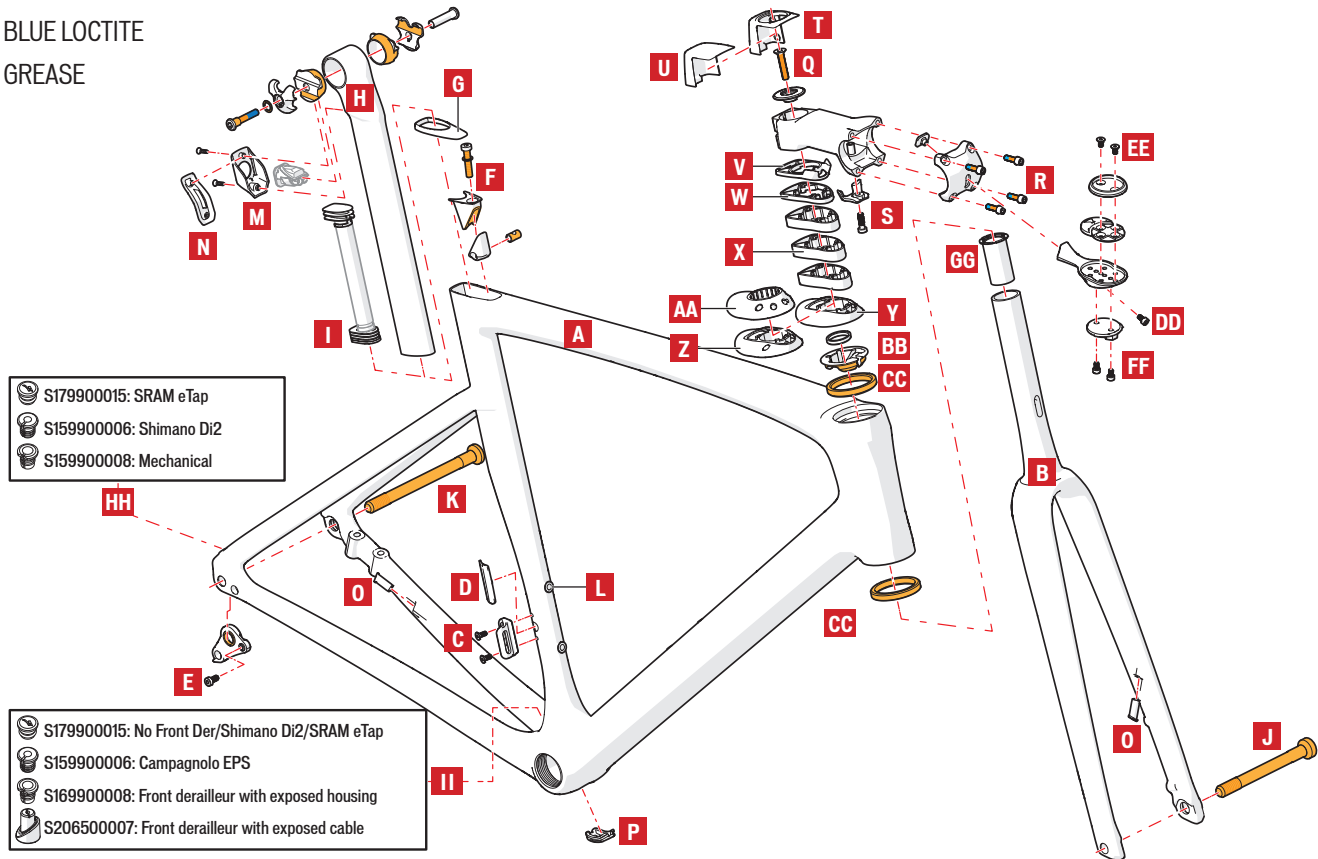
4.1. GEOMETRY

	FRAME SIZE	44	49	51	54	56	58	61
A	STACK (MM)	491	504	517	534	555	581	602
B	REACH (MM)	369	378	383	387	398	405	411
C	HEAD TUBE LENGTH (MM)	93	102	113	131	151	178	198
D	HEAD TUBE ANGLE (°)	70.5	71.75	72.5	73	73.5	73.5	74
E	BB HEIGHT (MM)	266	266	266	268	268	268	268
F	BB DROP (MM)	74	74	74	72	72	72	72
G	TRAIL (MM)	71	63	58	58	55	55	52
H	FORK LENGTH, FULL (MM)	366	366	366	366	366	366	366
I	FORK RAKE/OFFSET (MM)	47	47	47	44	44	44	44
J	FRONT CENTER (MM)	572	574	577	579	592	606	613
K	CHAINSTAY LENGTH (MM)	410	410	410	410	410	410	410
L	WHEELBASE (MM)	970	973	975	978	991	1006	1013
M	TOP TUBE LENGTH, HORIZONTAL (MM)	496	509	531	541	563	577	595
N	BIKE STANDOVER HEIGHT (MM)	723	735	746	768	786	808	834
O	SEAT TUBE LENGTH (MM)	435	447	458	475	496	517	547
P	SEAT TUBE ANGLE (°)	75.5	75.5	74	74	73.5	73.5	73



■ BLUE LOCTITE

■ GREASE



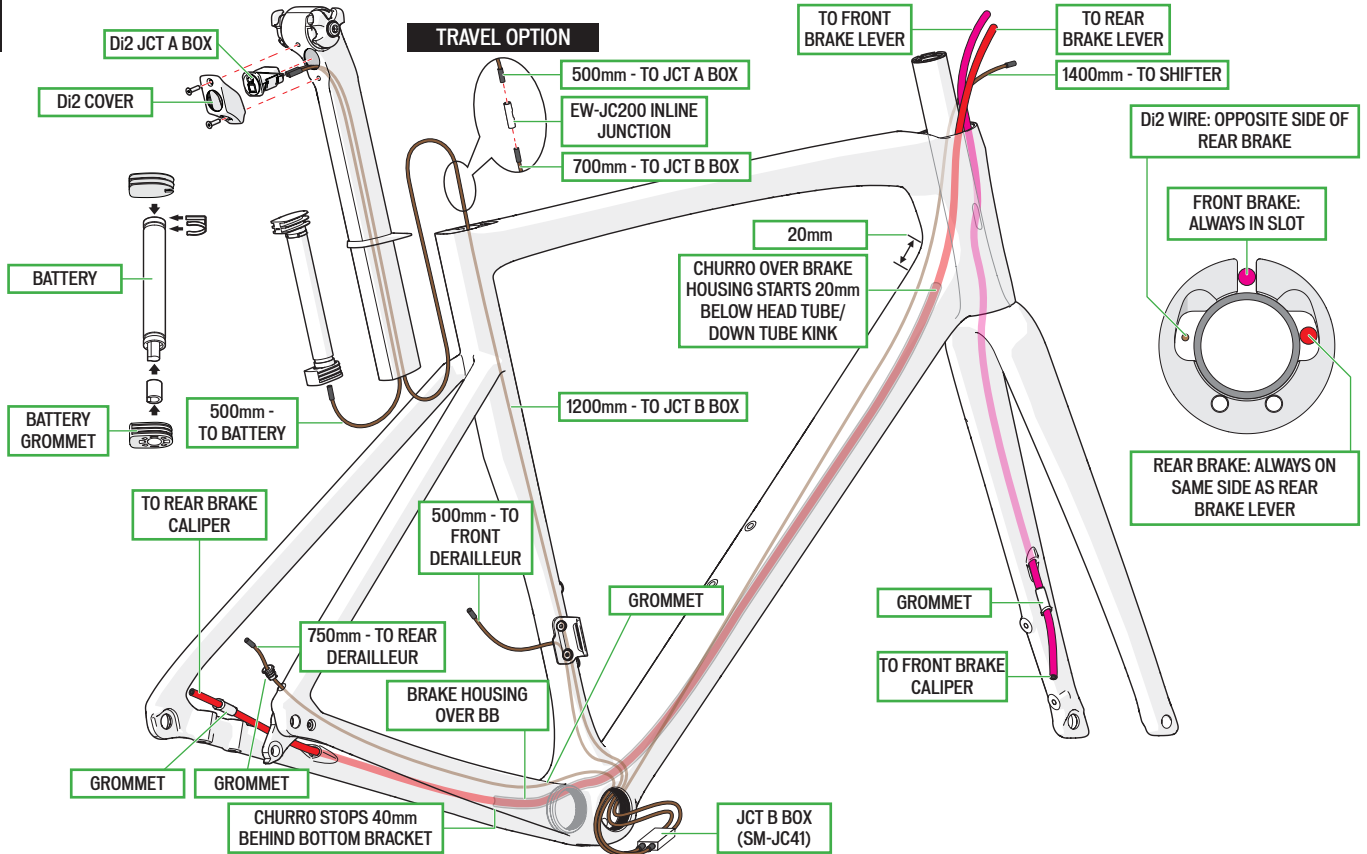
	PART #	DESCRIPTION	TOOL SIZE	in-lbf	Nm	
A		FRAME				
B		FORK				
C	S201900003	FRONT DERAILLEUR (FD) HANGER	2.5mm	18	2.0	
D	S201900002	RUBBER FD BLOCK OFF PLATE				
E	S182600001	REAR DERAILLEUR (RD) HANGER	4mm	40	4.5	
F	S204900002	SEATPOST WEDGE	4mm	55	6.2	
G	S204900003	SEATPOST WEDGE COVER				
H		SEATPOST (SADDLE CLAMP)	5mm	120	13.5	
I	S199900003	Di2 BATTERY GROMMET				
J	S180200004	FRONT AXLE	6mm	133	15	
K	S180200005	REAR AXLE	6mm	133	15	
L		WATER BOTTLE	3mm	25	2.8	
M	S209900058	SEATPOST Di2 JCT A BOX (20mm)	2.5mm	7	0.8	
N		SEATPOST HOLE COVER (20mm)	2.5mm	7	0.8	
M	S209900057	SEATPOST Di2 JCT A BOX (0mm)	2.5mm	7	0.8	
N		SEATPOST HOLE COVER (0mm)	2.5mm	7	0.8	
O	S179900013	CABLE HOUSING FERRULE				
P	S189900021	BOTTOM BRACKET RUBBER COVER				
Q	S182500012	STEM TOP CAP	4mm			

	PART #	DESCRIPTION	TOOL SIZE	in-lbf	Nm		
R		STEM FACEPLATE	4mm	44	5.0		
S	S204800003	STEM CABLE BAT	3mm	26.5	3.0		
T	S202500009	STEM COVER (OPEN)					
U		STEM COVER (CLOSED)					
V		UPPER TRANSITION					
W		5mm SPACER					
X		10mm SPACER					
Y		LOWER TRANSITION (ELECTRONIC)					
Z		LOWER TRANSITION (MECHANICAL)					
AA		LOWER TRANSITION (NON-AERO)					
BB		S212500016	COMPRESSION RING				
CC		S162500005	HEADSET BEARING				
DD	S219900020	ACCESSORY MOUNT @ FACEPLATE	3mm	24	2.7		
EE		ACCESSORY MOUNT @ CAMERA	3mm	9	1.0		
FF		ACCESSORY MOUNT @ COMPUTER	2.5mm	9	1.0		
GG	S222500002	EXPANSION PLUG	6mm	80	9.0		
HH	SEE FIG. 1	REAR DERAILLEUR PLUG					
II	SEE FIG. 1	FRONT DERAILLEUR PLUG					
	NOT SHOWN	HANDLEBAR CLIPS	2.5mm	9	1.0		



Many bolts have a blue threadlock patch on the threads to help secure the bolt under torque. Repeated installation and removal of a bolt may reduce the effectiveness of the patch. However, it can be replaced with the application of a liquid blue threadlocker.

1



5. BRAKE/SHIFT ASSEMBLY

5.1. SHIFTING - ELECTRONIC WIRED SYSTEM

FRAME WIRING LENGTHS:

LOCATION	QTY	LENGTH
JCT B BOX TO COCKPIT (SHIFTER)	1	1400mm
JCT B BOX TO REAR DERAILLEUR	1	750mm
JCT B BOX TO FRONT DERAILLEUR	1	500mm
JCT B BOX TO JCT A BOX (SEATPOST)	1	1200mm
JCT A BOX TO BATTERY (SEATPOST)	1	500mm
LEFT SHIFTER TO RIGHT SHIFTER	1	750mm

■ FIG. 1 (Shimano Di2): Route the wires through the frame.

- Route a 1400mm wire from the upper headset bearing hole, down the down tube and out the bottom bracket hole.
- Route a 700mm wire starting from the chainstay port and out the bottom bracket hole.
- Route a 500mm wire starting from the seat tube front derailleur port and out the bottom bracket hole.
- Route a 700mm wire down from the top of the seat tube and out the bottom bracket hole.
- Plug two 500mm wires into the JCT A box, then place the JCT A box in the back of the seatpost.
- Vertically slide the JCT A box onto the cover, install the assembly in the seatpost hole, then torque the bolts to 7 in-lbf / 0.8 Nm.
- Install the grommets and clips on the battery, then install the battery/grommet assembly in the seatpost.
- Plug one 500mm wire into the battery and the other into a EW-JC200 inline junction, then plug the seat tube wire into the other end of the EW-JC200 inline junction.
- Install the seatpost as described in the seatpost section (Fig. 5, page 13).
- Plug the four wires exiting the bottom bracket shell into a Junction B box, then place the Junction B box and the wires in front of the bottom bracket shell.

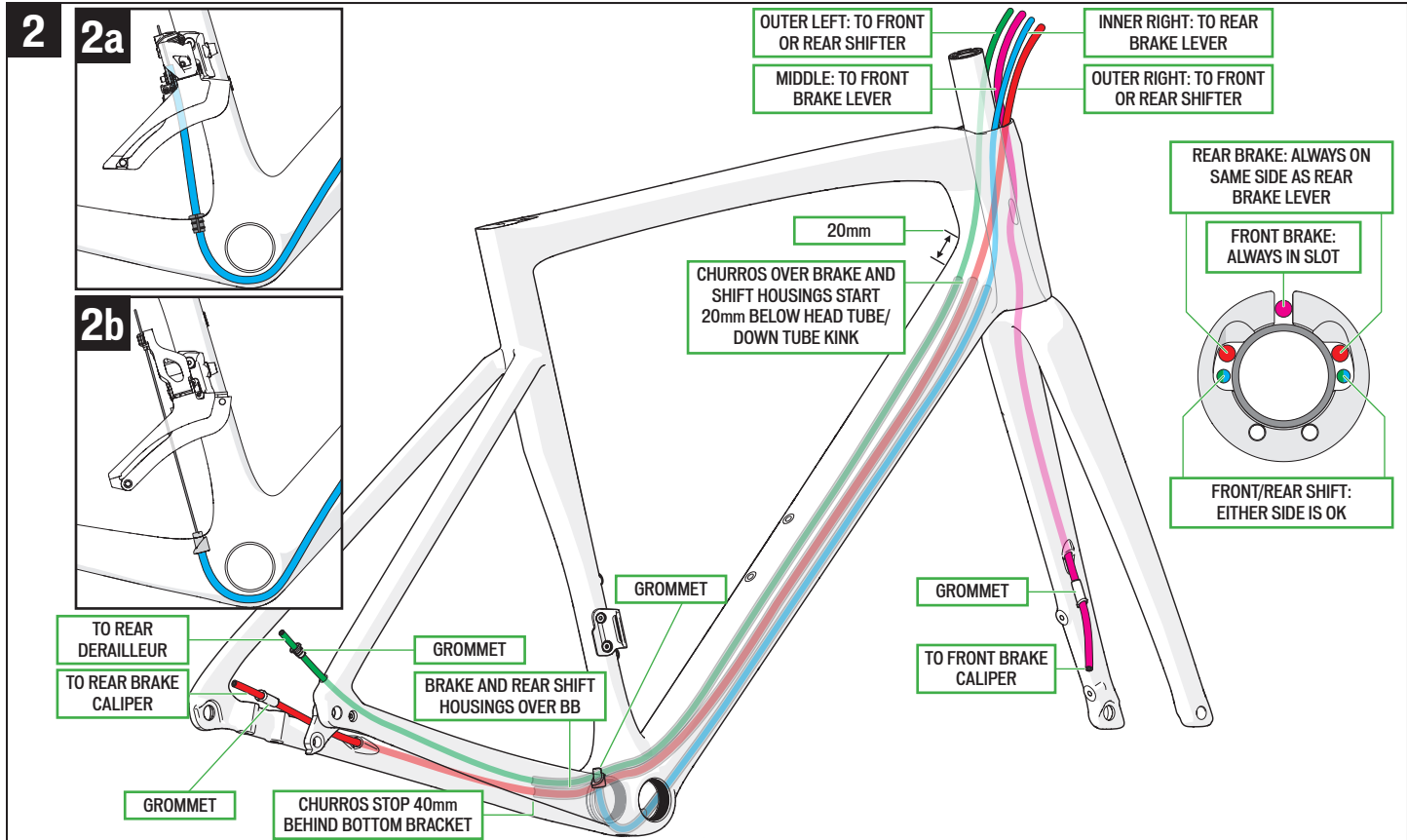


To prevent the JCT B box from rattling, wrap the box in a bit of foam before placing it in front of the bottom bracket shell.



SEATPOST REMOVAL: Before removing the seatpost, first remove the EW-RS910 Junction Box A/charge port, then disconnect the 1200mm seat tube wire.

TRAVEL OPTION (fig. 1 inset): If the seatpost will be removed repeatedly, you can replace the 1200mm wire with a 700mm and a 500mm wire, with an in-line EW-JC200 junction connecting the two wires.



5.2. SHIFTING - MECHANICAL SYSTEM

FIG. 2: Route the derailleur housings.

- Run the rear derailleur housing in through the rear dropout ICR port, over the bottom bracket shell, up the down tube and out the upper head tube hole.
- Run the front derailleur housing in through the bottom bracket ICR port, up the down tube and out the upper head tube hole.



When running a 2x chainring setup, we recommend using a front derailleur that requires full length housing all the way to the derailleur.

- **DERAILLEURS WITH EXPOSED HOUSING UP TO THE DERAILLEUR CABLE STOP (fig. 2a):** Place the grommet (S169900008) over the shift housing and into the frame's ICR port.
- **DERAILLEURS WITH EXPOSED CABLE FROM THE FRAME TO THE PINCH BOLT (Fig. 2b):** Place the housing stop (S206500007) into the front derailleur ICR port behind and above the bottom bracket shell. Rotate the grommet to ensure it is fully seated as deep as possible into the frame.
- Install Churros (foam sleeve) over the shift housings, then run the Churros into the down tube. The Churros must start 20mm below the head tube/down tube kink and the rear shift housing must end 40mm behind the bottom bracket shell.

5.3. BRAKES



The following steps explain routing the housings through the frame and fork. For additional information about the positions of the housings as they exit the head tube, refer to page 15, as well as the inset illustrations in Fig. 1&2.

FIG. 1 or 2: Route the rear brake housing.

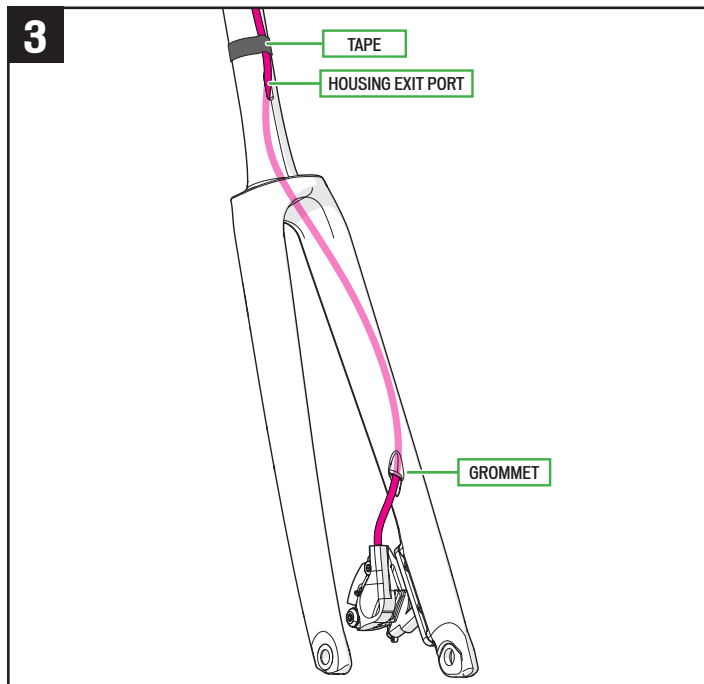
- Run the rear brake housing in through the chainstay ICR port, over the bottom bracket shell, up the down tube and out the upper head tube hole.
- Install a Churro over the rear brake housing. The Churro must start 20mm below the head tube/down tube kink and end 40mm behind the bottom bracket shell.
- Install a grommet over the brake housing and into the chainstay ICR port.
- Install the caliper on the chainstay. Torque the caliper bolts according to the brake manufacturer's instructions.

FIG. 1-3: Route the front brake housing.

- Run the front brake housing in through the lower ICR port in the fork and guide it up in the fork leg

until it exits at the housing port in the front of the steerer tube. Use a pick to help guide the housing out through the port.

- Install the caliper on the fork leg. Torque the caliper bolts according to the brake manufacturer's instructions.



- **Fig. 3:** Once the brake is mounted to the fork, secure the brake housing to the steerer tube with a section of strong adhesive tape. A variety of tape types can be used.
- Install the housing grommet into the ICR port on the fork leg.

6. SEATPOST ASSEMBLY

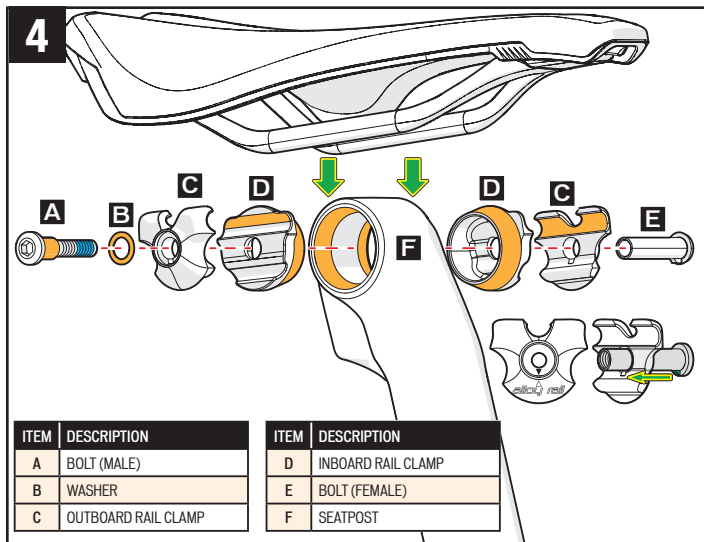


FIG. 4: Install the saddle.

- Grease the inboard rail clamp contact surfaces (D), then install them in the seatpost head assembly (F).
- Position the saddle rails on the inboard rail clamps.
- Position the outboard rail clamps (C) over the saddle rails. Use 7x7mm clamps for alloy rails or 7x9mm clamps for carbon rails.
- Insert the female bolt (E) through one of the outboard rail clamps and key the bolt tab in the outboard rail clamp groove.
- Apply loctite to the bolt threads (A) and grease to the bolt head and washer (B), then place the washer on the male bolt.
- Install the bolt in the opposing outboard rail clamp, then thread it into the female bolt.

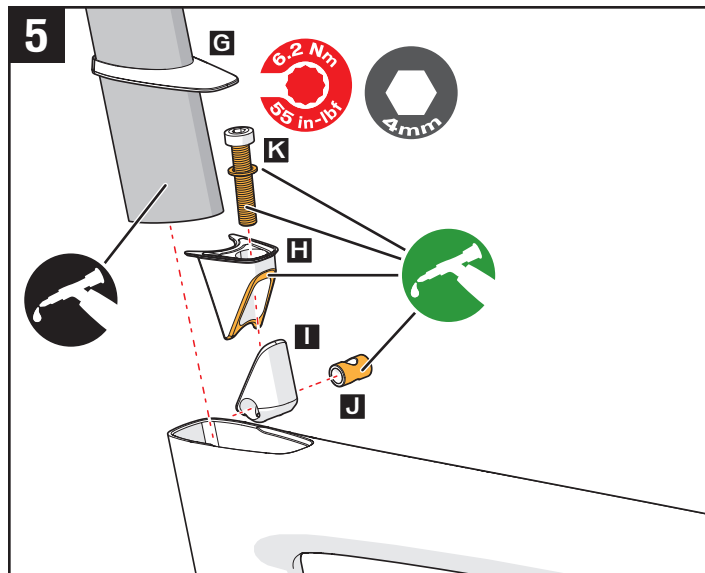


FIG. 5: Install the seatpost in the frame.

- If there's wiring and a battery (Shimano Di2), follow the wiring as shown in fig. 1.
- Place the rubber wedge (G) cover onto the seatpost.
- Apply carbon assembly compound (fiber paste) to the seatpost, then insert the seatpost into the seat tube.
- Apply grease to the contact surfaces between the upper (H) and lower (I) wedge parts, the barrel (J), and the bolt threads, bolt head and washer (K).
- Assemble the seatpost wedge, then insert it into the frame, in front of the seatpost.
- Once the seatpost height is set, push the rubber cover over the wedge.

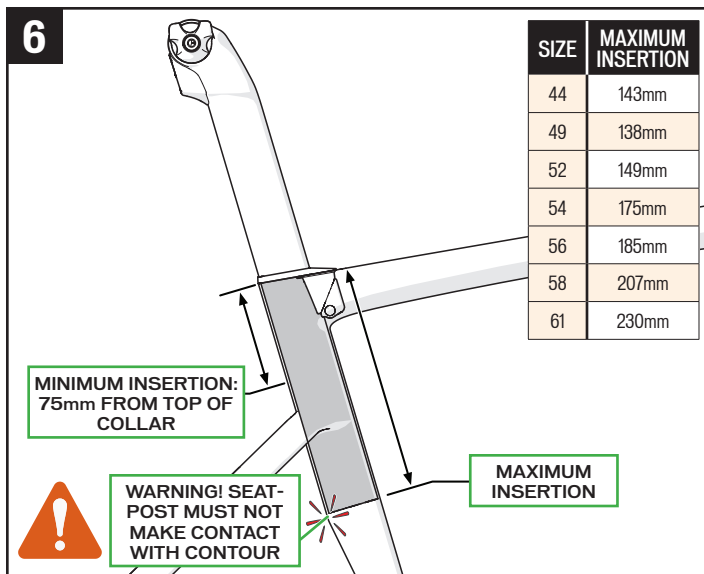


FIG. 6: Determine the saddle height.

- Both the frame and seatpost have minimum insertion requirements. In addition, the frame has a maximum insertion requirement to prevent damage to the tire cutout area.
- **MINIMUM INSERTION:** The seatpost must be inserted into the frame deep enough so the minimum insertion/maximum extension (min/max) mark on the seatpost is not visible. Both the frame and seatpost require a minimum of 75mm of insertion.
- **MAXIMUM INSERTION:** The seat tube contour changes part-way down. This contour change limits the insertion depth of the seatpost. When inserting the seatpost, there should be sufficient space between the bottom end of the seatpost and the contour so as to not cause any structural damage to the frame. The maximum insertion requirement is size specific. Please refer to the table in fig. 6.

- If the post is at the minimum or maximum insertion and the saddle is not at the desired position, the seatpost must be replaced with a longer or shorter seatpost.
- Fig. 5: Once the saddle height is determined torque the seatpost wedge bolt to 55 in-lbf (6.2 Nm).



The Tarmac SL7 seatpost is available in two lengths (300mm and 380mm) and two setbacks (0 and 20mm). If the 380mm post is too long, we recommend using the 300mm seatpost.



Do not apply grease to the contact surfaces between the seatpost and the seat tube. Grease reduces the friction, which is critical to proper seatpost grip. Specialized recommends the application of carbon assembly compound (fiber paste), which can increase friction between carbon surfaces. Please visit your Specialized Authorized Retailer for additional information.



WARNING! Failure to follow the seatpost and frame insertion requirements (fig. 6) may result in damage to the frame and/or seatpost, which could cause you to lose control and fall.



WARNING! For general instructions regarding the installation of the seatpost, refer to the appropriate section in the Owner's Manual. Riding with an improperly tightened seatpost can allow the saddle and seatpost to slide down, which can damage the frame and cause you to lose control and fall.



WARNING! Inspect the seatpost and seat tube to ensure that there are no burrs or sharp edges. Remove any burrs or sharp edges using fine grit sandpaper.

7. FORK / STEM ASSEMBLY

Determine the rider's fit (page 2), and the resulting steerer tube length.



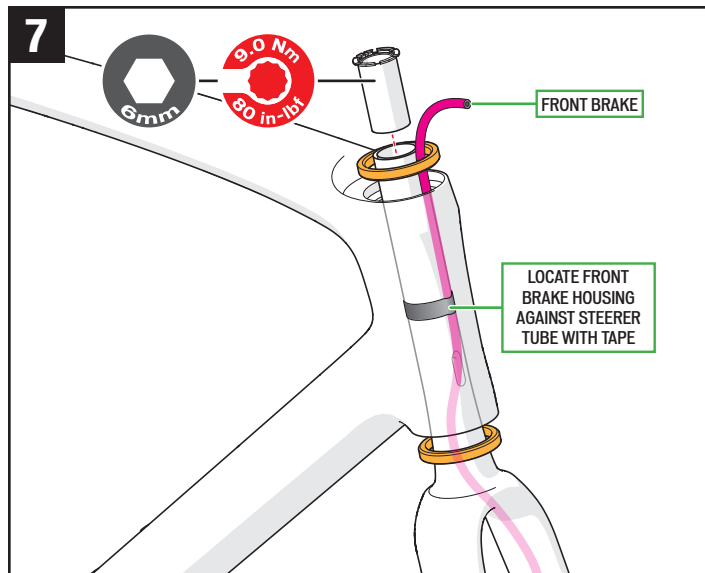
Due to the routing system around the stem area, housing lengths do rely on the final position of the stem height. Before setting the housing lengths, it is best to determine the fit.



WARNING! Once the bike's fit has been determined, the steerer tube should be cut 3mm below the top of the stem (fig. 10a/11a). Alternatively, one 5mm spacer can be placed above the stem with use of the open stem cover (fig. 10b/11b). There should not be more than 5mm of spacers above the stem.

Placing more than 5mm of stem spacers above the stem is acceptable for fit purposes only. For actual riding, the stem requires full support from the expander plug inside the fork to function safely and as intended.

- Cut the fork to the desired height. This can be done with or without the brake and shift controls installed. Never cut the steerer more than 3mm below the top of the stem!
- Install the steerer tube expander plug, then torque the plug to 80 in-lbf / 9.0 Nm.



■ FIG. 7: Install the headset bearings.

- Grease then install the lower headset bearing in the lower head tube cup, then run the steerer tube with front brake line into the head tube. The rear brake and electronic wire or mechanical shift housings should be exiting the top of the head tube alongside the steerer tube.
- Grease then install the upper headset bearing down over the steerer tube and into the head tube, with the brake housings and electronic wire or mechanical shift housings between the upper headset bearing and the steerer tube.

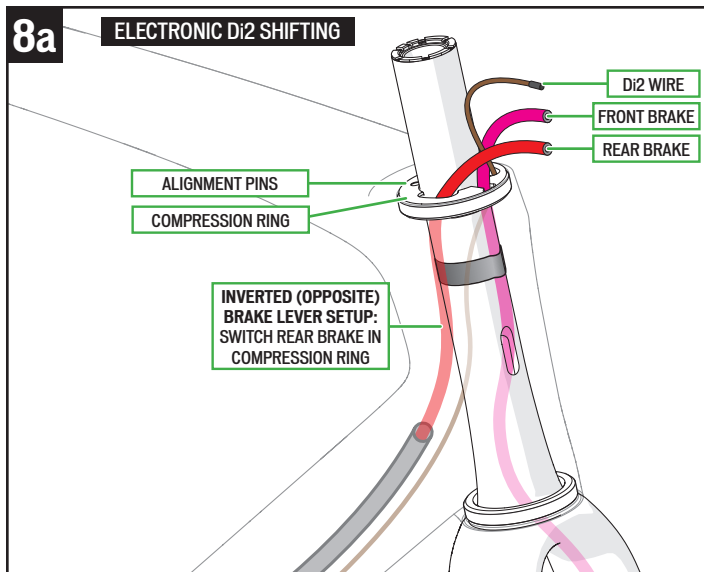


FIG. 8a: Install the compression ring (Electronic wired shifting).

- Guide the brake housings and wire through the respective slots of the compression ring, install the compression ring on the steerer tube, then seat the ring in the upper bearing.
- With the fork facing forward and the housings sticking up out of the frame, rotate the fork 90 degrees in the direction opposite the side the rear brake is routed. This will allow the rear brake housing to wrap around the steerer tube as it rotates.
- With the fork rotated 90 degrees, pull the rear brake housing until it is gently taut in the frame, then push 20mm of housing back down into the frame. The additional 20mm of housing allows for some stack adjustment, as well as prevent binding when the handlebars are turned.

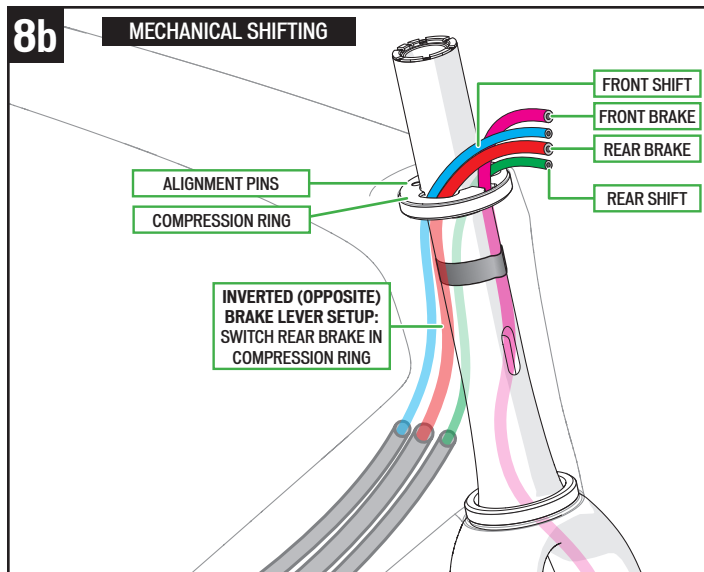
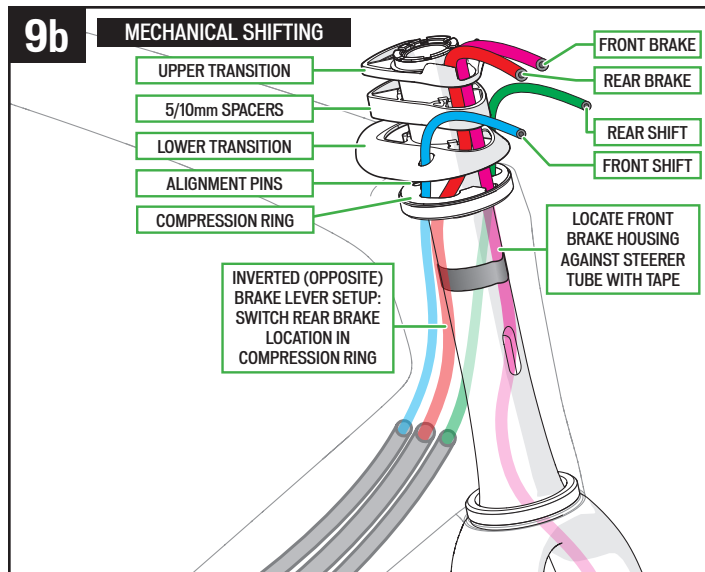
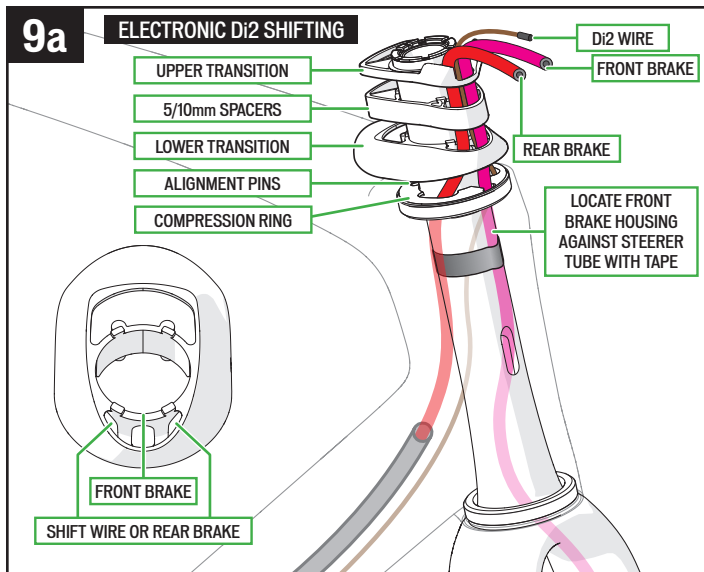


FIG. 8b: Install the compression ring (Mechanical shifting).

- Guide the brake and mechanical shift housings through the respective slots of the compression ring, install the compression ring on the steerer tube, then seat the ring in the upper bearing.
- With the fork facing forward and the housings sticking up out of the frame, rotate the fork 90 degrees in the direction opposite the side the rear brake is routed. This will allow the rear brake housing to wrap around the steerer tube as it rotates.
- With the fork rotated 90 degrees, pull the rear brake housing until it is gently taut in the frame, then push 20mm of housing back down into the frame. The additional 20mm of housing allows for some stack adjustment, as well as prevent binding when the handlebars are turned.



7.1. AERO STEM

FIG. 9a: Install the transition and stack parts (Electronic wired shifting).

- Guide the brake housings and wire for Shimano Di2 through the respective holes of the lower transition (fig. 9a inset), then guide them up through the front hole of the spacer stack and upper transition as the transitions and spacers are being installed on the steerer tube.
- Guide the brake housings and Di2 wire forward into the notch in the upper transition, then install the stem on the steerer tube.

FIG. 9b: Install the transition and stack parts (Mechanical shifting).

- Guide the brake housings through the respective holes of the lower transition, then guide them up through the front hole of the spacer stack and upper transition as the transitions and spacers are being installed on the steerer tube.
- Guide the shift housings through the holes on the outside of the transition. The shift housings can go through either hole and can cross to the shifters (recommended) or go directly to each shifter without crossing (fig. 23b).
- Guide the brake housings forward into the notch in the upper transition, then install the stem on the steerer tube.



- The front brake housing must always pass through the front slot of the compression ring.
- The rear brake housing must always pass through the side slot of the compression ring that matches the rear brake lever side. The brake housings must not cross each other.
- **MECHANICAL:** The front and rear shift housings can go through either side slot of the compression ring. Choose the side based on if you plan to cross the housings under the stem before entering the handlebar or not.
- **ELECTRONIC:** The wire goes on the opposite side of the rear brake housing.



- The aero spacers require the use of the lower and upper transition at all times.
- The lower transition has two pins that key into two holes in the compression ring. Make sure they are aligned and keyed in.
- Fig. 9a: The Di2 wire crosses from the side to the middle.



The spacers are split so they can be installed or removed to adjust stack height without removing the housings and wires.

To engage the clip, install the spacer on the steerer tube, then vertically slide the clip together.



WARNING! Do not apply grease or carbon assembly compound (carbon paste) between the stem and the steerer tube, and do not twist the stem onto the steerer tube. This can result in damage to the composite surface, which may result in a catastrophic failure of the fork, resulting in serious personal injury or death.

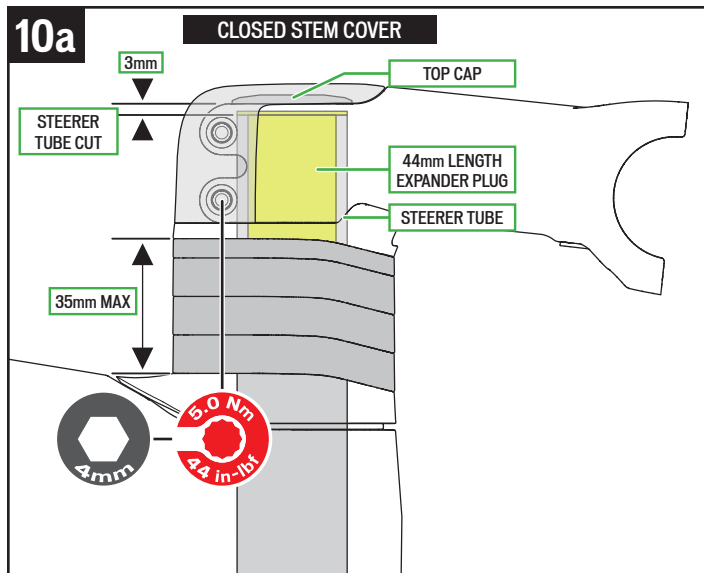


Fig. 10a: Closed stem cover installation.

- To use the closed stem cover, the steerer tube must be cut 3mm below the top of the stem.



Stack height can be placed between the lower and upper transitions, up to a maximum of 35mm.

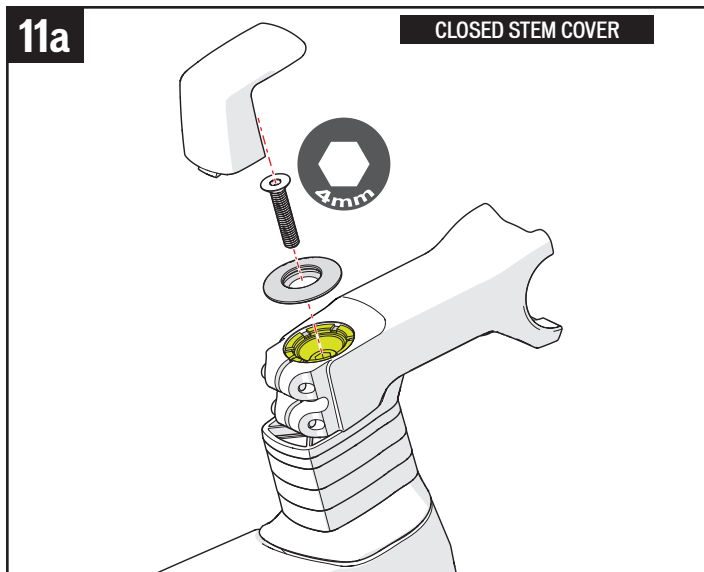


FIG. 11a: Install the closed stem cover (Steerer tube cut 3mm below stem).

- Install the top cap and bolt, then install the stem cover without a hole in the top. Headset adjustment can be done at any time.

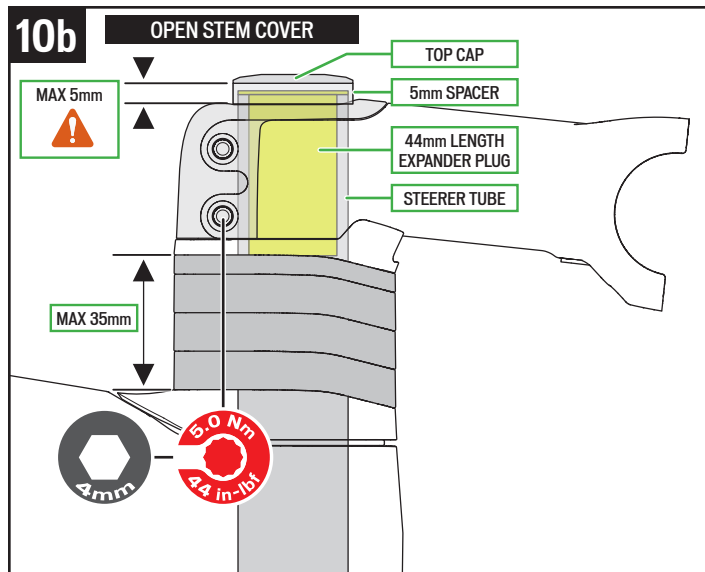


Fig. 10b: Open stem cover installation.

- When using the open stem cover, the maximum spacer height is 5mm. Otherwise, the stem may not be fully supported by the expander plug.



Stack height can be placed between the lower and upper transitions, up to a maximum of 35mm.

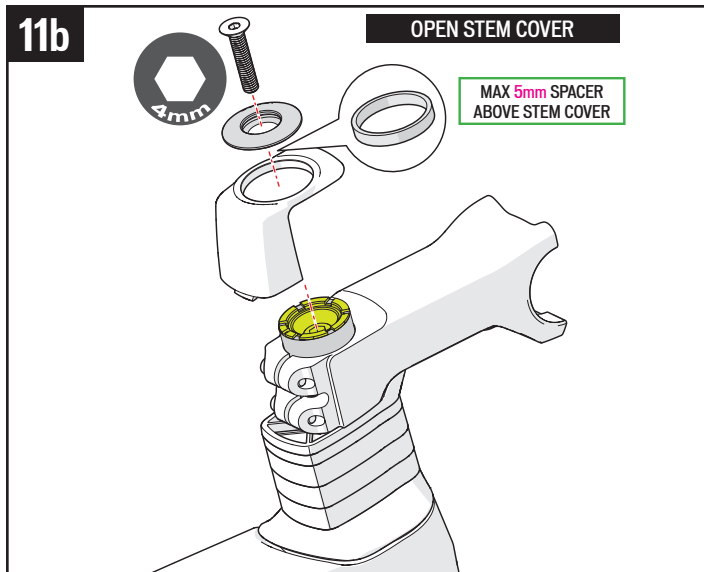


FIG. 11b: Install the open stem cover (Exposed steerer tube above stem).

- Install the stem cover with a hole in the top, place a maximum 5mm of spacers above the top cap, then install the top cap and bolt. Headset adjustment can be done at any time.



WARNING! Proper positioning of the compression plug is necessary to structurally support the stem clamping area. Do not place more than a 5mm spacer between the stem cover and the top cap.

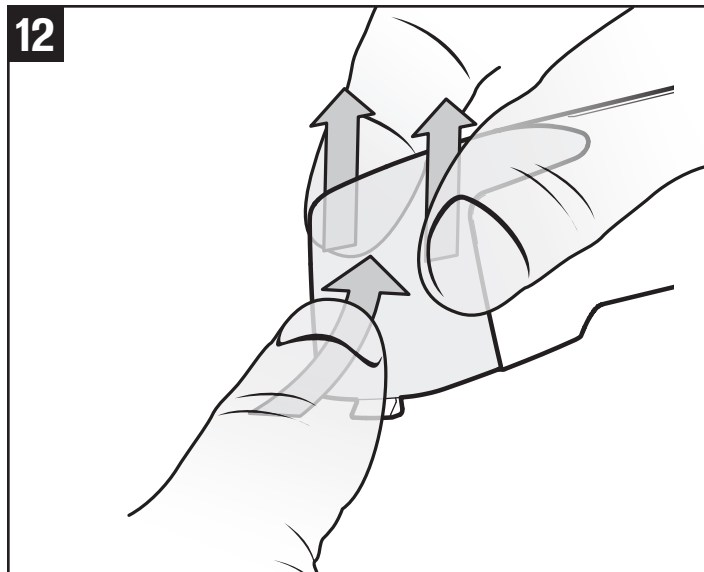


FIG. 12: Closed top cap removal (for stem bolt access).

- To disengage the closed top stem cover from the upper transition and top cap, press on the back of the cover in a forward and upward motion, while pulling up on the sides.

7.2. STANDARD STEM

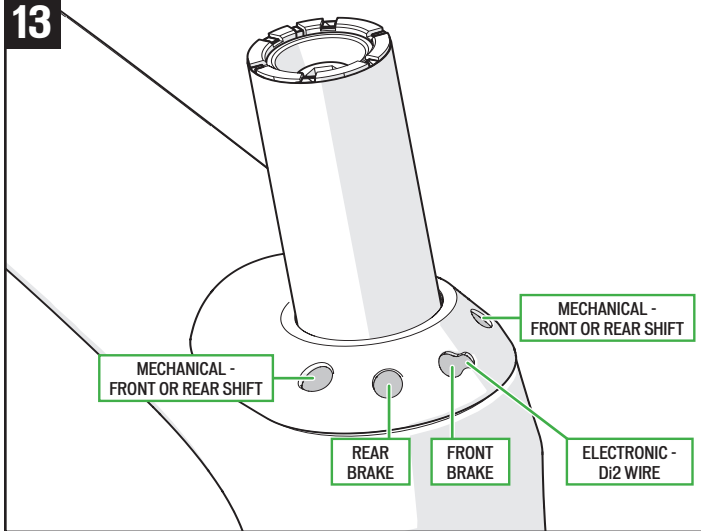


FIG. 13: Install a standard stem.

- Install the universal transition on the steerer tube, then guide the housings (and wire if using Shimano Di2) through their respective holes.
- **Shimano Di2 shifting:** Route the wire through the designated oblong shaped hole, then position the wire in the smaller cavity of the hole before routing the front brake housing through the same hole.
- **Brakes:** The brakes are routed through the two inner position holes. The front brake housing must go through the oblong hole.
- **Mechanical shifting:** Route the shift housings through the outer drive side holes. The housings can go through either outer hole and can go directly to each shifter or they can cross to the shifters (fig. 23b).

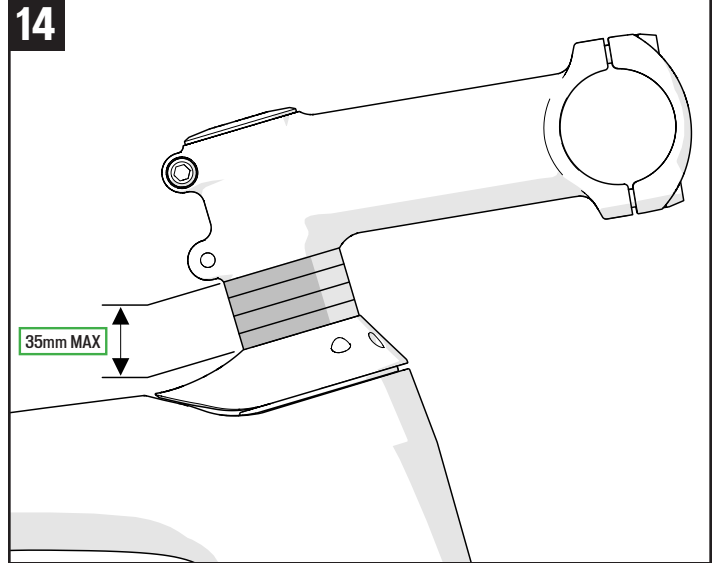


FIG. 14: Adjust the stack height.

- Install the desired stack of round spacers (max 35mm), then install the stem and top cap.
- Route the housings and wires to the brake and shift levers and install according to the manufacturer instructions.



WARNING! Burrs and sharp edges can damage the carbon and alloy surfaces of the components. Any deep scratches or gouges in the stem or fork can weaken the components.



WARNING! Specialized stems are specifically designed in conjunction with Specialized forks with carbon steerer tubes to ensure proper load distribution. Specialized recommends against the use of non-Specialized-branded stems with large bore holes in contact with the steerer tube. Large bore holes reduce the clamping surface area and may concentrate the load onto the carbon steerer tube in an unsafe manner. If using a standard stem (instead of the Tarmac SL7 stem), only use a standard slotted style stem. Do not use an internal wedge clamp style stem, as internal wedge clamp stems can cause damage to the steerer tube if improperly installed.

As we cannot test every combination, Specialized does not recommend the use of non-Specialized branded stems with Specialized forks (carbon steerer tubes) and Specialized Carbon steerer tube plugs, unless specified as original equipment by Specialized.



WARNING! Do not apply grease or carbon assembly compound (carbon paste) between the stem and the steerer tube, and do not twist the stem onto the steerer tube. This can result in damage to the composite surface, which may result in a catastrophic failure of the fork, resulting in serious personal injury or death.

7.3. HANDLEBAR ASSEMBLY

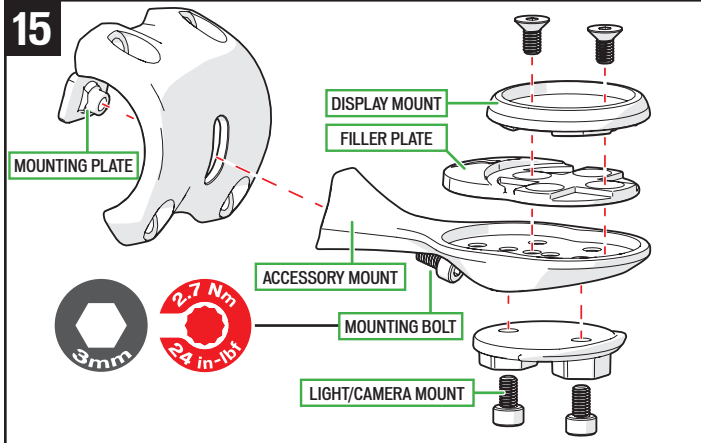


FIG. 15: Optional - Install the Specialized Accessory Mount.



The Specialized Accessory Mount is compatible with Bar Fly 4 accessory adapters. The Accessory Mount plate allows two mounting positions, depending on display size. The included adapters fit many of the more popular display, light and camera mounts. Additional adapters are available at www.barflybike.com.



CAUTION: The orientation of the mounting plate is critical to the structural integrity of the stem and handlebar. If the plate is installed vertically, it will not seat properly and can cause damage to the handlebar once torqued to specification.

- Apply blue loctite to the mounting bolt, place the mounting plate **horizontally** inside the stem faceplate and install the Accessory Mount on the stem faceplate. Once the angle of the Accessory Mount is determined, torque to 24 in-lbf / 2.7 Nm.
- Install the chosen accessories then torque the bolts.

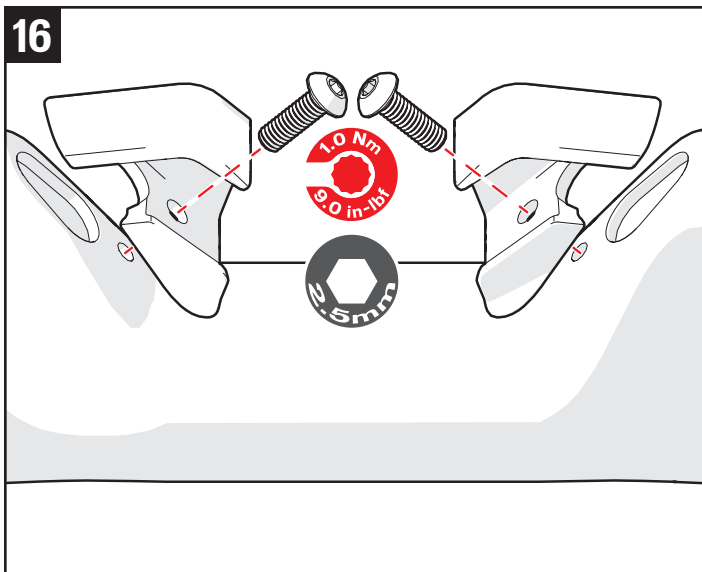


FIG. 16: Install the handlebar clips.

- Install the two handlebar clips on their respective sides.
- Torque the two bolts to 9.0 in-lbf / 1.0 Nm.



INFO: Cut the foam churro found in the small parts box in half and insert one into each side of the handlebar through the ICR port before installing the handlebar clips. Route all the cables through the churros to avoid cable rattle.

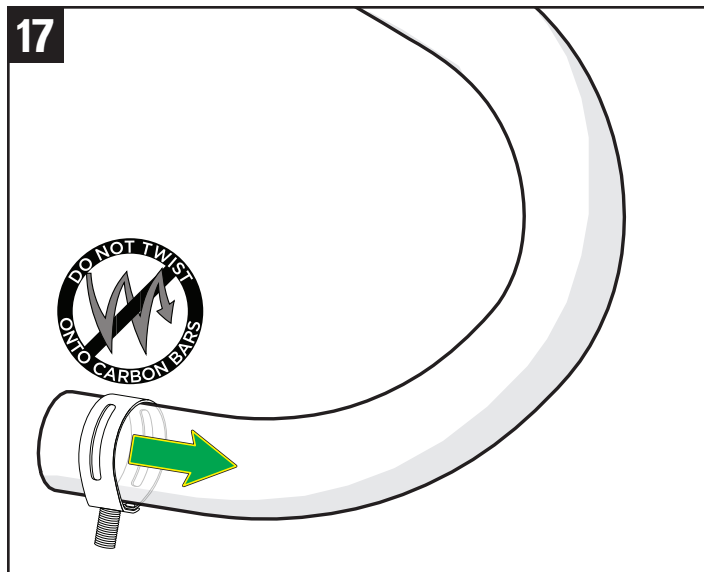


FIG. 17: Install the brake/shift levers.

- Slide the brake/shift lever clamps on the handlebar, then install the brake/shift levers on the clamps.
- Align the levers and torque the clamp bolts to the manufacturer's specifications.



WARNING! Do not twist the band clamp to install it on the handlebar. This can result in damage to the carbon.

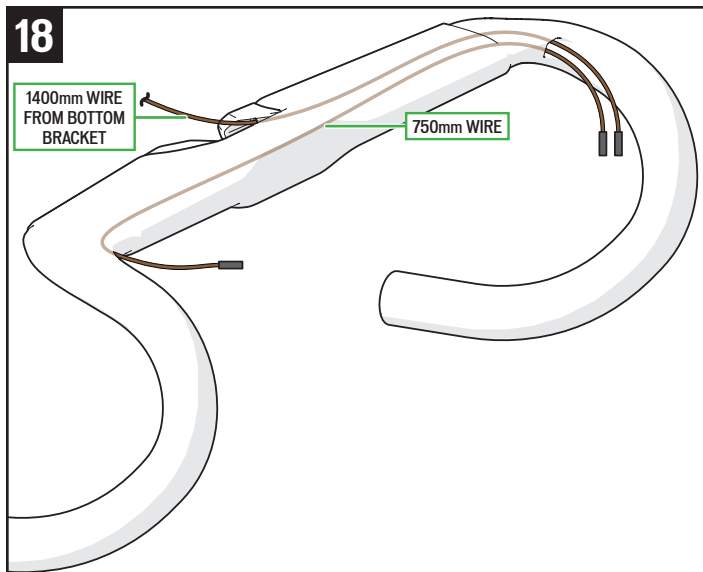


FIG. 18 (Shimano Di2): Install the brake housings and shift wires.

- Route a 750mm length of wire through the handlebar, with the plugs protruding from the exit ports at the curve before the drops.
- Route the 1400mm wire exiting from under the stem through the handlebar and to either shifter.

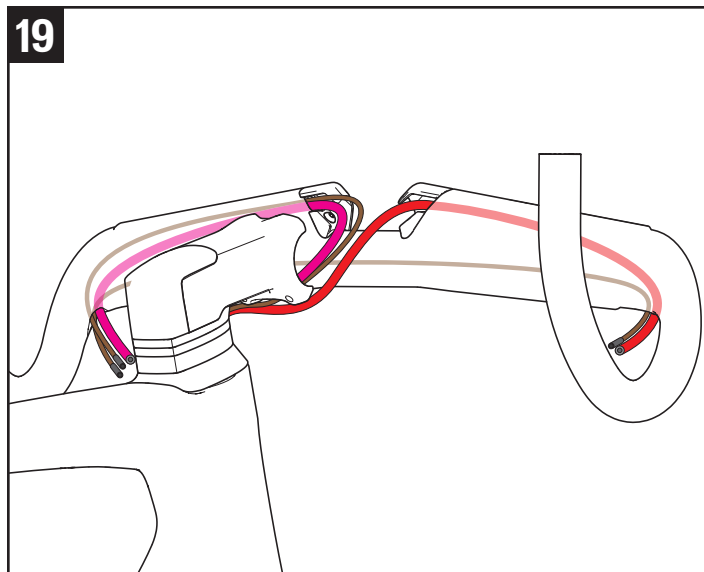


FIG. 19 (Shimano Di2): Install the brake housings.

- Route the brake housings into their respective handlebar sides until they exit the handlebar next to the wires.



From when they exit the steerer tube to when they enter the handlebar, the brake housings must not cross each other. If the rear brake lever is on the right, then the rear brake housing exits the head tube on the right and remains on that side until it enters the right handlebar port.

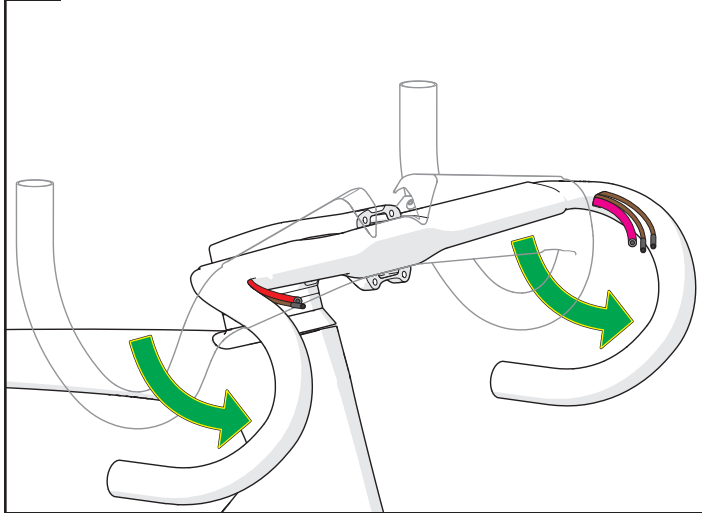
20

FIG. 20: Install the handlebar.

- With the handlebar drops facing down, place the handlebar against the stem clamp, then rotate the handlebar into position.

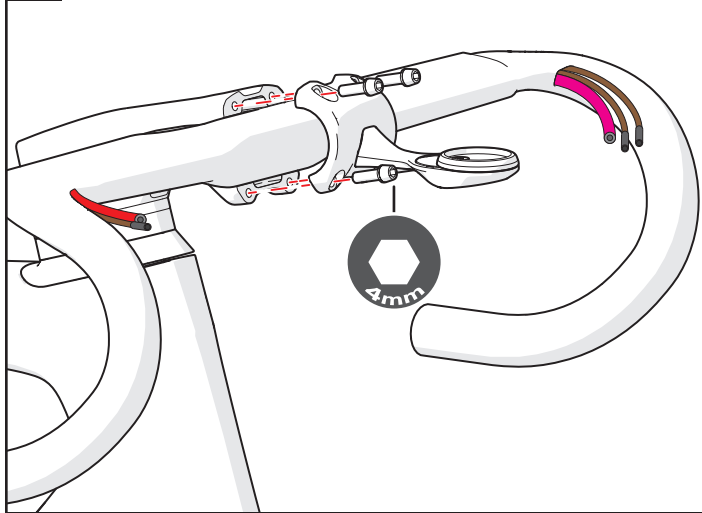
21

FIG. 21: Install the stem faceplate.

- Loosely thread the stem bolts through the faceplate and into the stem body.
- Rotate the handlebar to the desired position.

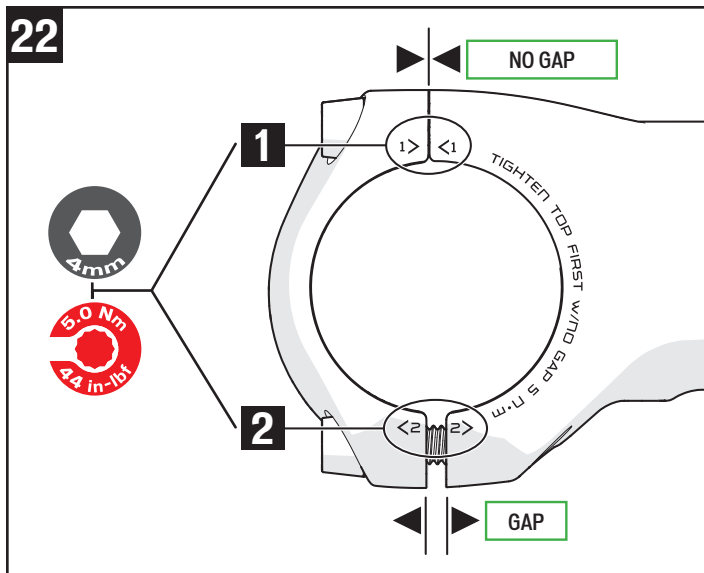


FIG. 22: Tighten the stem bolts.

WARNING! The Tarmac SL7 stem is designed with no gap between the stem body and the faceplate at the upper bolt area. The upper bolts must be tightened such that the faceplate bottoms out against the stem body before being torqued.

Failure to bottom out the faceplate against the stem body can result in structural damage to the handlebar.

- **1** : Gradually torque the upper bolts to spec.
- **2** : Gradually torque the lower bolts, alternating from the left to right bolt to evenly increase the torque until the spec is reached.

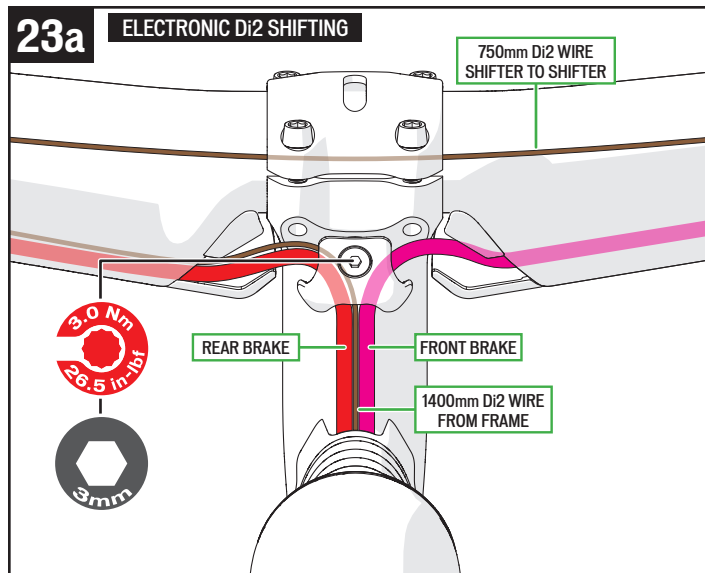


FIG. 23a: Secure the brake housings under the stem (Electronic wired shifting).

- Install the stem cable bat to secure the brake housings and Di2 wire under the stem.
- Torque the stem cable bat bolt to 26.5 in-lbf / 3.0 Nm.

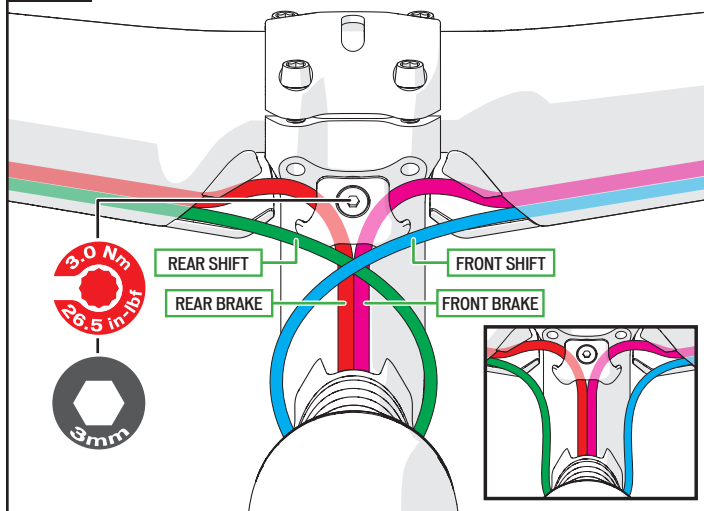
23b**MECHANICAL SHIFTING**

FIG. 23b: Secure the brake housings under the stem (Mechanical shifting).

- Install the stem cable bat to secure the brake housings under the stem. Shift housings must NOT pass through the cable bat, they go directly to the handlebar openings.
- Route the front and rear shift and brake housings through the handlebar sides that match the positions of the left and right brakes and shifters. We recommend the Cali Cross routing style as shown, but routing without crossing the housings (**fig. 23b inset**) is acceptable.
- Torque the stem cable bat bolt to 26.5 in-lbf / 3.0 Nm.



Do not pinch the housings or Di2 wire with the stem cable bat.



Before cutting the hydraulic lines, it can be helpful to push some excess hose into the handlebar. This allows for possible minor future fit adjustments.

- Guide the housings through the handlebar and to the levers, then finish the brake and shifter setup according to the manufacturer's instructions.

8. FINAL STEPS

- Finish any remaining steps for installing the drivetrain and other components according to the component manufacturer's instructions.
- Install the handlebar tape on the handlebar.
- Check the fit, then double-check the torque specs for all bolts.

SPECIALIZED BICYCLE COMPONENTS

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